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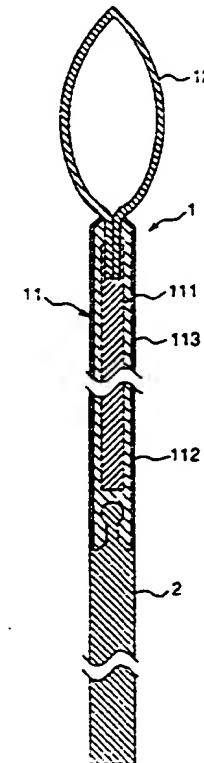
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### (54) Suture thread for intracardiac suture operation

(57) A suture thread for intracardiac suture operation, comprises a thread guide element (1) and a thread (2) joined to a rear end thereof, the thread guide element (1) being composed of a slender straight member (11) of a super-elastic alloy wire and a looped member (12) of a super-elastic alloy wire provided at a front end of the straight member (11). The thread guide element (1) may be further provided at its rear end with a looped member of a super-elastic alloy wire. The super-elastic alloy may be an alloy selected from the group consisting of Ti-Ni, Cu-Zn-Al and Cu-Al-Ni alloys. The looped member (12) of the suture thread is captured by suture-hocking means of a catheter assembly C including a hooking catheter 4, as shown in (Fig. 1).

Fig. 1



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member 13 is fixed to the rear end of the straight member 11 by adhesion, welding or press-fitting, as shown in Fig. 2. Preferred thickness of the lubricating layer 113 ranges from 0.001 to 0.01 mm.

The thread 2 is generally made of synthetic resin such as polypropylene and joined to the rear end of additional looped member of the guide element 1.

Since the suture thread for intracardiac suture procedure of the present invention includes the thread guide element made of a super-elastic alloy at the tip, the suture thread can be seen more easily through a fluoroscope as compared with the conventional radio-paque suture thread, thus making it easy to sequentially displace the thread across the defect. Further, the guide element has super-elasticity and slipping property, there is no fear of entwining which may occur frequently in the conventional suture thread. In addition, the thread permits smooth suture procedure because of its good slipping property.

Although the present invention has been fully described in connection with the preferred embodiments thereof with reference to the accompanying drawings, it is to be noted that various changes and modifications are apparent to those skilled in the art. Such changes and modifications are to be understood as included within the scope of the present invention as defined by the appended claims unless they depart therefrom.

Claims 30

1. A suture thread for intracardiac suture operation, which comprises a thread guide element and a thread joined to a rear end thereof, said thread guide element being composed of a slender straight member of a super-elastic alloy wire and a looped member of a super-elastic alloy wire provided at a front end of the straight member, said straight member having the outermost layer of a coating of a lubricating material. 35
2. The suture thread according to claim 1, wherein said guide element is further provided at its rear end with an additional looped member of a super-elastic alloy wire, and wherein said suture thread is joined to said additional looped member. 45
3. The suture thread according to claim 1 or 2, wherein said super-elastic alloy wire is made of an alloy selected from the group consisting of Ti-Ni, Cu-Zn-Al and Cu-Al-Ni alloys. 50

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